Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

1   Answer in one sentences :   **20**

(1)   Function call it self that is known as _____

(2)   _____ is the name of the & operator.

(3)   There are mainly _____ techniques available in sorting.

(4)   Give the full form of LIFO.

(5)   Full form of DMA.

(6)   _____ function is use to open file.

(7)   _____ function reads a set of data values from a file.

(8)   _____ function is use to close file.

(9)   _____ part contains the data value.

(10) _____ syntax is use to define file.

(11) _____ mode is use for writing to the file.

(12) Pre-order traversal sequence is _____

(13) _____ function is use for closing to the file.

(14) _____ function is use to allocate memory.

(15) Give the full form of FIFO.

(16) _____ support LIFO method.

(17) _____ operation is use to insert values in stack.

(18) What is pointer ?

(19) _____ datatype occupied one byte.

(20) A _____ node has no children.

2   (A)   Answer in two or three sentences : (Any **Three**)   6

(1)   What is stack ?

(2)   List out advantage of Linked-Lists.

(3)   Explain linear data structure.

(4)   List out disadvantage of Queue.

(5)   Explain circular queue.

(6)   Expain File Handling.

(B)   Write down the answer of following questions :   9
(Any **Three**)

(1)   Explain types of searching techniques.

(2)   Explain circular link list with suitable example.

(3)   Write a menu driven program to implement a static stack with following operation.
Push( ), pop( ), peep( ).

(4)   Explain ftell( ) and rewind( ).

(5)   Explain Binary Files with example.

(6)   Write a program to input 10 number from user and calculate sum using array of pointer.

(C)   Write down the answer of following questions in   10
detail : (Any **Two**)

(1)   Create structure stud (id, name, deptno) input 5 records and print.

(2)   What is structure ? Explain with example.

(3)   Write a program to sort an array element using Bubble sort technique.

(4) Write a menu driven program to implement a static queue.

(5) What is binary tree ? Explain binary tree traversal method.

3 (A) Answer in one sentences : (Any **Three**)   6

(1) Difference : fprintf( ) V/s. fwrite( ).

(2) Write an algorithm to perform push( ).

(3) Define root node, leaf node and child node.

(4) Explain operation of stack.

(5) Write down rules of pointer.

(6) Write an algorithm to perform sorting element in linked list.

(B) Answer in two or three sentences : (Any **Three**)   9

(1) Write an algorithm step to implement stack.

(2) Write a program to perform insert Operation in tree.

(3) Write an algorithm for following operation on doubly linked list.

    (1) Create

    (2) Display

    (3) Sort

    (4) Search

(4) Difference between singly linked list V/s. doubly linked list.

(5) Difference between primitive V/s. Non primitive data structure.

(6) Explain Command line arguments.

(C) Write down the answer of following questions :   10
(Any **Two**)

(1) Compare insertion sort and selection sort.

(2) What is circular queue ? Explain in detail with example.

(3) What is linked list ? Explain in detail.

(4) Write a program to input number from users until number is –1 and calculate sum using structure with pointer.

(5) Write an program for following operation of singly linked list.

    (1) Append

    (2) Insert

    (3) Delete

    (4) Count

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